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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/334,530	06/16/1999	KORBIN S. VAN DYKE	114596-10-4017	5424

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EXAMINER

DAS, CHAMELI

ART UNIT PAPER NUMBER

2122

DATE MAILED: 11/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/334,530

Applicant(s)

VAN DYKE ET AL.

Examiner

C.DAS

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

1. This action is in response to the reconsideration filed on 9/11/03.

Rejections - 35 USC § 112

2. Claims 1-45 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regard as the invention.

Claims 1 and 24 recite the limitation regarding the profiling occurs without any software intervention. In the present application, only the abstract and the summary state that “without any software intervention”. There is no description in the detailed description section that how the profiled information is recorded under control of hardware of the computer without any software intervention.

The rejection of the base claims are necessarily incorporated into their dependent claims.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over O'Donnell (US 6,374,369) and further in view of the article “Using Branch Handling Hardware to Support Profile-Driven Optimization”, by Conte, ACM, 1994.

As per claim 1, O'Donnell discloses:

- *while executing a program on a computer, detecting the occurrence of profileable events*

(Abstract, lines 1-16, column 4, lines 21-25)

- *occurring in the instruction pipeline* (column 11, lines 38-40, col 12 lines 22-28, col 14 lines 45-48)

- *directing the instruction pipeline to record profile information describing the profileable events essentially concurrently with the occurrence of the profileable events* (column 5, lines 19-22, column 6, lines 46-52, abstract lines 1-16).

O'Donnell discloses detecting and recording occurring under control of hardware of the computer with software intervention (column 1, lines 8-12, Abstract lines 4-16, column 9, lines 38-40, column 7, lines 38-42, column 8, lines 1-4).

O'Donnell does not specifically disclose that recording the profile without software intervention. However, Conte in his article discloses recording the profile in hardware without software intervention (Conte, page 12, Abstract, and page 14, section 2.3). Therefore, it would have been obvious to one of the ordinary skill in the art at the time of invention was made to incorporate the teaching of Conte into the method of O'Donnell. The modification would be obvious because one of the ordinary skill in the art would be motivated to produce high accuracy with small slowdown in execution and high performance profiling system.

As per claim 24, O'Donnell discloses:

- *computer hardware comprising an instruction pipeline* (Abstract, lines 1-16, column 6, lines 45-60) **an arithmetic unit** (Fig 9), where "510" and "530" show the loop counting and timer count inherently including an arithmetic unit is the hardware system as claimed

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- execute instructions received from a memory and profile circuitry (Abstract, lines 3-12, column 4, lines 38-44)
- profile circuitry under hardware control, the instruction pipeline interconnected to detect the occurrence of profileable events as claimed (column 1, lines 8-12, Abstract lines 4-16, column 9, lines 38-40, column 7, lines 38-42, column 8, lines 1-4),

O'Donnell does not specifically disclose that recording the profile without software intervention. However, Conte in his article discloses recording the profile in hardware without software intervention (Conte, page 12, Abstract, and page 14, section 2.3). Therefore, it would have been obvious to one of the ordinary skill in the art at the time of invention was made to incorporate the teaching of Conte into the method of O'Donnell. The modification would be obvious because one of the ordinary skill in the art would be motivated to produce high accuracy with small slowdown in execution and high performance profiling system.

4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over O'Donnell (US 6,374,369) and further in view of the article "Using Branch Handling Hardware to Support Profile-Driven Optimization", by Conte, ACM, 1994 and Lewchuck, US 6,047,363

As per claim 2, O'Donnell discloses:

- *recorded profileable events indicates the address during the profiled execution* (column 15, lines 17-62),

O'Donnell does not specifically disclose the last byte of instruction. However, Lewchuck discloses the last of the instruction (Lewchuck, col 15 lines 15-20). The modification would

be obvious because one of the ordinary skill in the art would be motivated to record the profiled events efficiently.

For claim 5 and 27, O'Donnell discloses:

- the profile information is recorded and stored (Abstract, col 6 lines 10-35, and col 6 lines 48-52).

O'Donnell does not specifically disclose recorded into general register and without software intervention. However, Conte discloses to record the profile information into the general register without any software intervention (Conte, page 15, section 3.2, page 12, Abstract, page 14, section 2.3 and section 3). The modification would be obvious because one of the ordinary skill in the art would be motivated to record the profiled events efficiently.

For the rest of the claims see the rejection of the previous office action including the rejection of claims 1 and 24 above.

Allowable Subject Matter

5. Claims 38-40 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chameli Das whose telephone number is 703-305-1339. The examiner can normally be reached on Monday-Friday from 7:00 A.M. to 4:00 P.M.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor Tuan Dam can be reached at 703-305-4552. The fax number for this group are:

(703) 872-9306 (official fax), (703) 746-7240 (non-official/draft), (703) 746-7238 (after final).

An inquiry of general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is 703-305-9600.

Chameli C. Das
Chameli C. Das

Primary Patent Examiner

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11/16/03